

INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

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COUNTRY USSR (Moscow Oblast) REPORT [REDACTED] 25X1

SUBJECT 1. Central Automobile Repair Plant in Moscow DATE DISTR. 9 February 1959

2. The ZIL Automobile Plant in Moscow NO. PAGES 1

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

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Attachment 1 is a report including detailed information and sketches of the Central Automobile Repair Plant in Moscow.

Attachment 2 [REDACTED] 25X1

general and specific information concerning the ZIL Automobile Plant in Moscow. A plant layout sketch is also included.

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(Note: Washington distribution indicated by "X"; Field distribution by "#".)

INFORMATION REPORT INFORMATION REPORT

SECRET

COUNTRY: USSR

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SUBJECT: ZIL AUTOMOBILE PLANT

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ZIL AUTOMOBILE PLANT

The ZIL Automobile Plant (once called Stalin and then ^{Lj}Liachov) was located in Moscow, Proletarskiy rayon, on a sort of peninsula which jutted out into the ^{Moskv}Moscova river and northwest of ^{city}the Moscova River southern port. Point of reference was the Stalinskiy subway station, located a kilometer and a half from the plant's main gate. It was subordinate to the Ministry of Automobiles. [Transport]

Its area was almost circular; some of its buildings and shops were more modern than others. It was enclosed by a 4-meter high 5-kilometer perimeter wall and had three entrances plus one for the railroad; the main gate ^(north towards) faced the subway station, another was for personnel, and the last faced the bridge.

PRODUCTS

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[redacted] small 1500 kilogram trucks, bicycles, and dark green and dark grey 7 to 8 X 2¹/₂-meter 2500 kilogram amphibious vehicles driven by propellers were made here. All of these were stamped ZIL (1).

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Another shop manufactured an unidentified product which was carried away in tightly closed boxes; it was heavily guarded by soldiers and no one was permitted to enter.

BUILDINGS AND THEIR ACTIVITIES

Some of the shop buildings had underground installations.

[redacted] there were approximately 50 buildings [redacted]

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Final Assembly Shop Building No 1. - It turned out about 30 three-ton trucks a day. Approximately 1200 persons worked here.

Motor Construction Shop Building No 2 [redacted] - This was a 400-meter long by 30-meter high two-story brick stuccoed structure

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that had a tar-cinder roof and a basement. In 1954 part of the roof caught fire.

(Each day)

It made 65 different types of heavy oil engines used in six-cylinder

50 horsepower three-ton trucks. ~~44447447~~

Most of the machinery was automatic made in Germany [redacted] It

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had 1200 vertical and horizontal lathes; most of them weighed ten

tons and the rest two or three tons. This machinery frequently

broke down because it was old and parts often were defective and had

to be done over. [redacted]

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The engines were taken to Assembly Shop Building No 1 where they were

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installed in
the trucks.

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This shop had 1200 persons on three shifts. They were allowed wide tolerance ranges.

Underground installations were being constructed here.

Casting Shop Building.— It cast iron and other metals.

Bicycle Shop Building

Secret Sections.—

the amphibious vehicles were

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made here.)

RAW MATERIALS

The Plant used wrought iron, cast iron, steel, copper, lead, aluminum, tin, nickel, plastic, coal, coke, mineral oil, wood, gasoline, brick, cement, plaster, water, and gas which were brought by truck, railroad, and water.

About 40 or 50 trucks came in each day, the majority at night.

the copper cable and aluminum ~~was~~ imported from Poland

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and Czechoslovakia.

Logs, boards, aluminum, copper, and plastic used for refrigerators were brought in by train and coal, stone, plaster, and bricks by water.

WATER SUPPLY

In shop building there was a tank and three or four pumps. Water was pumped to the plant by a system on the river/located/near the bridge.

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The pipes were installed underground except for those on the walls of some shop buildings.

POWER

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There was a fuel-oil thermoelectric station that had turbines and various

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transformers were located throughout the plant. Power was adequate.

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Floodgates of the so-called "Moscow Canal" and some dams were located

on the river south of the plant; barges bringing loads came up this canal.

PACKING

In Shop No 2, motors ready for shipment were wrapped in heavy yellow greased paper, cushioned with straw, and packed in wooden crates. These were stamped

ZIL and something else

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TRANSPORTATION

Railroad.— A double-track siding entered the premises on the southwest and branched off to the different shops where materials were loaded from the platforms onto railroad cars. Most of the cars and small steam locomotives were old. However, the more modern ones were made of metal, weighed 50 to 60 tons, and had four axles. Some of the electric cranes, which moved along the track, weighed 15 tons.

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Seventy-five percent of the products

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were shipped by rail; in-coming products were usually handled by barge

since a greater amount could be brought in this way.

Roads.— The Plant used the 25-meter wide Leningradskiy road; the road bed was made of stone and sand covered with a layer of tar. It needed to be repaired often because traffic was heavy and it was not well cared for. It was always open to traffic. The garages and shops were adequate enough to service the plant's 70 trucks. Vehicles unloaded between 0800 and 1800 and transported one percent less (i.e. lathes, parts, and bronze) than

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trains and barges.

Water.— The Plant had a small 30 X 15-meter inner harbor with wooden docks (into which only one barge fitted; others had to line up and wait their turn outside) located near the bridge at the plant's entrance. The river at this point was 60 or 70 meters wide and five or six meters deep. They used a 10-ton electric travelling crane.

Forty or fifty-ton 25 X 7 or 8 X 3₂-meter black wooden barges with a 2₃-meter draft were towed at 10 kilometers per hour by small steam sidewheelers. Four or five arrived or left each day; a man (or woman) took care of the tow line and ^{and} used hand or motor pumps to ^{raise} ~~put~~ the water out.

They carried stone, cement sacks, plaster, plastic glass, wood, coal, brick, sand, and tiles. Seventy percent of construction materials were brought by water. Six floodgates ~~canal~~ were located eight kilometers south of the plant.

STORAGE

An open-air dump, which stored regular and plastic glass, wood, lathes, motors, aluminum, bronze, steel, 50 or 60 tons of cement and plaster, coal, steel ingots, bricks, and sand under ^{tarps} ~~canopies~~ or in sheds, was located near the river and the port. Next to the dump were warehouses (the larger ones measured 50 x 20 x 3 or 4-meters). Cans of heavy oil and metal boxes of grease were also stored here. Loading and unloading platforms, cranes, and cars on railroad sidings were located in this storage area.

Smoking or lighting fires was not permitted near areas where inflammable materials were stored. There were hydrants, extinguishers, and sand boxes

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[redacted]

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in the shop buildings and other plant areas.

PRODUCTION LINE

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[redacted] 0155157517015771751 iron castings were shaped into

cylinders, axles, crankshafts, tie rods, rods, pistons, transmission

gear boxes, compressor valves, and pumps. These parts were moved along

on tracks to each of the 200 operators on the line in turn, painted, and

picked up by hooks which deposited them on one side of the shop for test-

ing. From there they were sent either to the Assembly Shop Building for

trucks or crated to be shipped out.

PRODUCTION

The production norm was 65 motors a day; however, approximately 70 and

possibly 80 could be manufactured if a great effort was made. Produc-

tion decreased in summer. The norm set for Shop Building No 2 was

considered excessive.

WORKING CONDITIONS

According to law, the plant supposedly had a 44-hour work week; however,

they worked at least 14 hours and sometimes more on Saturdays. There

were 400 workers on each of the three eight-hour shifts; they had 15

minutes off for lunch and 20 minutes for dinner. Fifteen-day annual

vacations were granted at the discretion of the bosses. [redacted]

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[redacted] Shop Building No 2 did not have sufficient ventilation;

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metal particles floated through the air. In summer ^(this building) was quite warm,

and in winter damp and cold.

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RITY

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Five hundred secret police (men and women), armed with guns and pistols, were stationed on three shifts in some shops, at the two entrances, and inside and outside the premises. However, the system was not very rigid. Workers had to present a propusk (with photograph, name, shop number, and a red stripe) on entering the premises and a card with number and name, which was punched by a time clock, on entering and leaving the shops.

Workers were not allowed in shops other than their own unless they had a good reason.

The plant also had three fire engines and eighty firemen who lived in a building located next to the main gate. There were shelters, gas masks, and special rubber suits; [redacted] the installation could be blacked out by a master switch which was located in the administration building.

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ORGANIZATION AND PERSONNEL

The plant had approximately 17,000 employees; [redacted]

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[redacted] A woman was in charge of control and a testing

section was located at the end of the assembly line. Shop building No 2 was organized as follows:

1 Shop Chief

1 Qualified Assistant Chief

6 Qualified Master Technologists

4 Master Fitters

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1 Mechanical Engineer (who checked machines)

Workers

names of the following Soviet personnel:

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Lilachov, Plant Director.-

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Dimitrov, Chief of Shop № 2.- Mechanical Engineer,

Abraham Ifremovich, Assistant Chief of Shop № 2.-

Nina Merkulova, Control Supervisor.-

about 600 Russian prisoners worked at the plant

They loaded and unloaded scrap iron, stone, and shavings

under the supervision of guards ~~and~~ travelled in closed trucks. ~~they~~

were not paid, but were fed,

there were approxima-

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tely 500 other foreigners; the majority were Chinese and Koreans, but

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there were also Persians, Turks, Czecho-Slovakians, Finns, and others

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There were no strikes. Workers complained about low wages or being paid late when the plant did not have sufficient funds.

Privileges were given to Party members and the sons or relatives of the bosses. There were few absences; however, workers were fired if it re-
occurred frequently.

DEFICIENCIES, IMPROVEMENTS, AND PROMOTION OF PRODUCTION

Norms were raised to increase production and assembly lines were being automatized. Mechanical problems were solved by installing new modern machinery. Equipment was not well cared for since there was no time and work could not be stopped. There was a high percentage of defective parts.

[redacted] number and quantities were falsi-

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fied on the records until they produced enough to cover deficits.

[redacted] the production norm on engines was to be decreased

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since this type of work was very strenuous. [redacted] it would take 15

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days to convert the plant to wartime use and [redacted] the chiefs had already

received instructions on what to do in such a case.

AUTOMATION

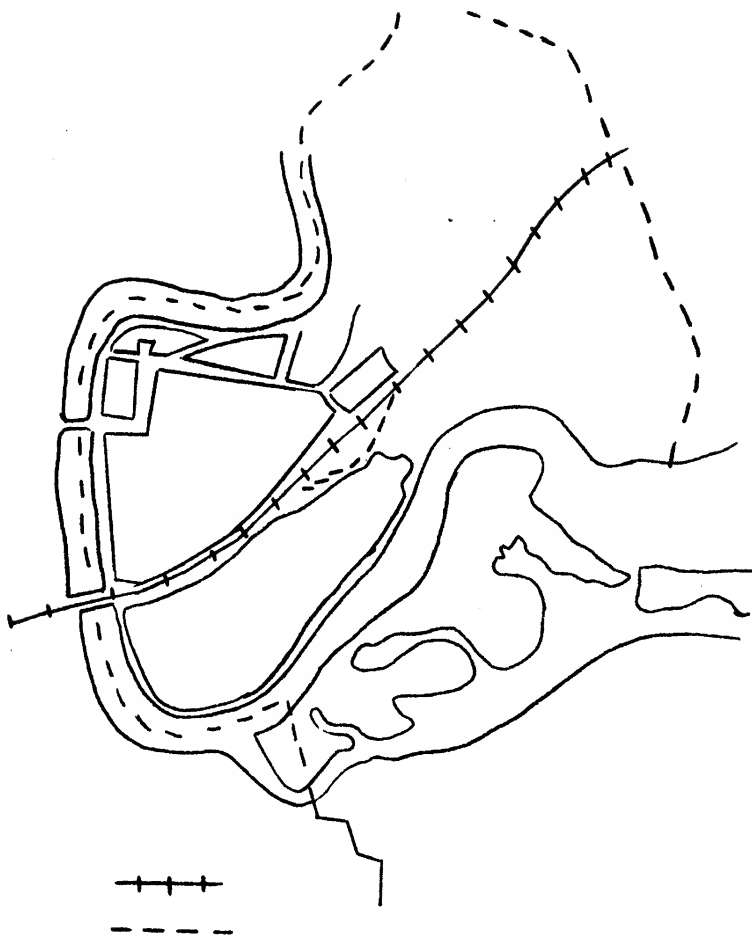
[redacted]
mechanical automation was used in all the shops [redacted]

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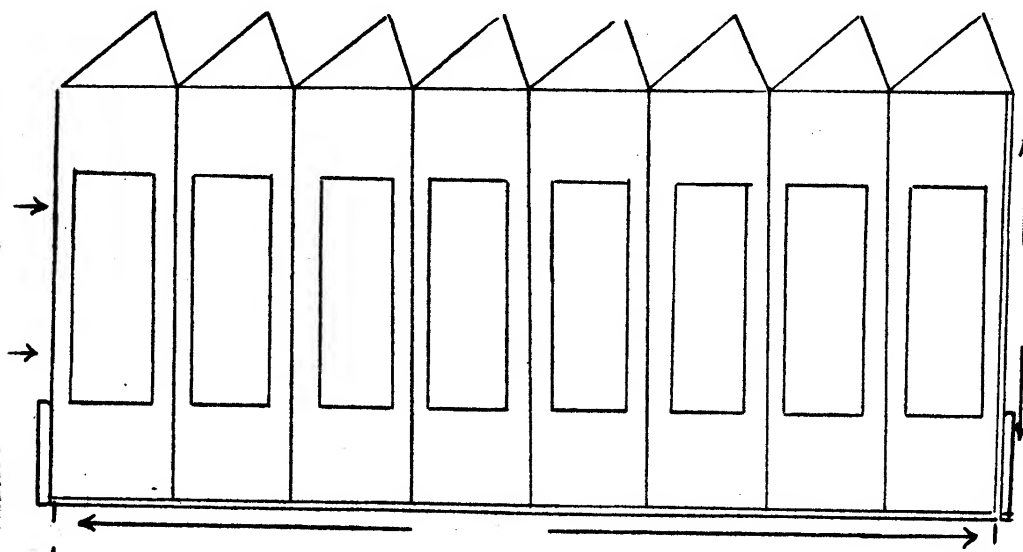
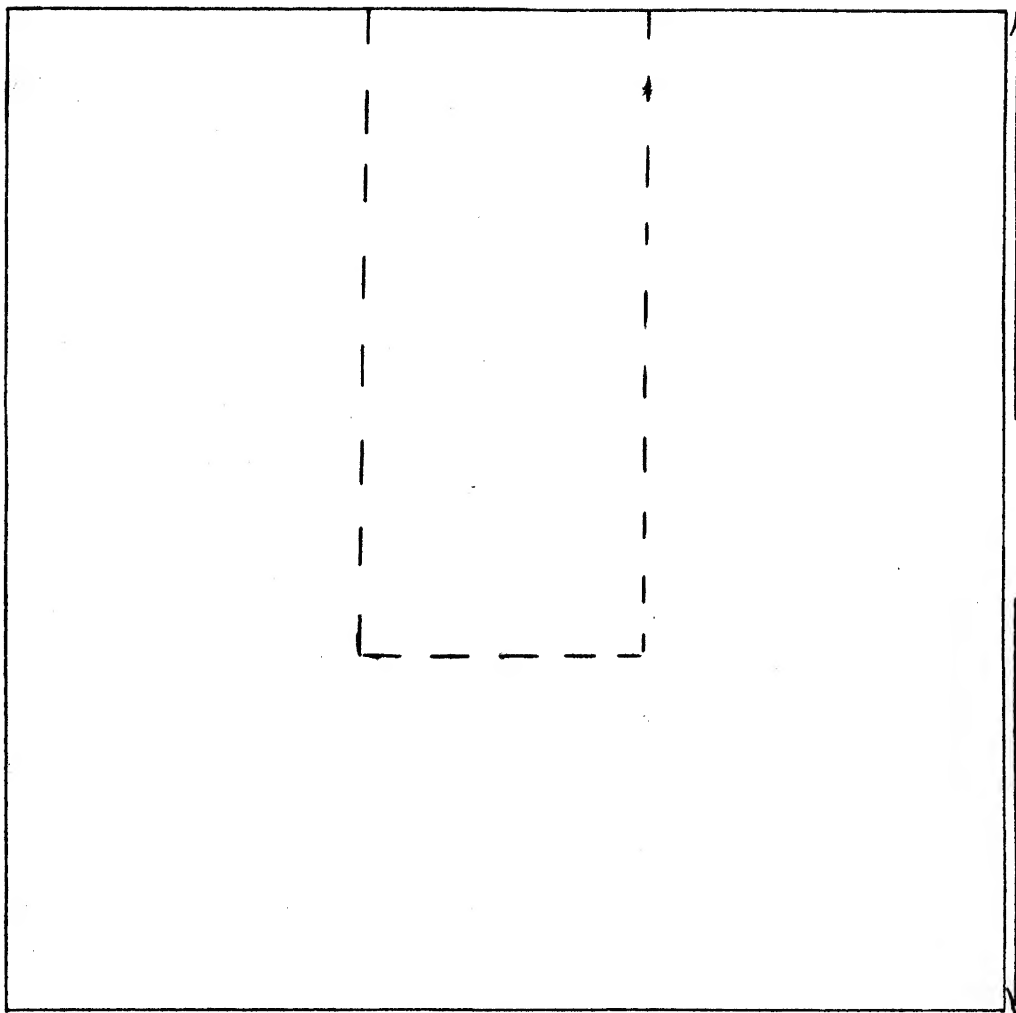


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THE CENTRAL AUTOMOBILE REPAIR PLANT IN MOSCOW

General

1. The Central Automobile Repair Plant (Tsentralnyy Avtomontorny Zavod), located on Tankovyy Proyezd in the Pervomyskiy rayon of Moscow, was subordinate to the Ministry of Automobile Transport. (See overlay of Moscow city plan [redacted] which indicates the street on which the plant was located.)

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Plant Buildings and Functions

2. The margin numbers in parentheses refer to the attached sketch of [redacted] sketch of the plant. ^{ment} Until 1948-1949, there was only a single repair shop called the "General Repair Shop", which was in the area now occupied by the shop building (See (14) through (21) below), with very few auxiliary shops. From this time on, other shops were constructed, enlarged and appropriately equipped to become the present "Central Automobile Repair Plant". None of the plant buildings contained basements. There was no room for further expansion as the area around the plant was fully built-up. The buildings were described as follows:

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- (1) Entrance to the plant from Tankovyy Proyezd.
- (2) Office building. This was a two-story brick building, approximately 40 x 60 meters, and roofed with sheet metal. There was only one outside entrance, so that the offices were almost completely separated from the plant itself, except for a small door from the first-aid room to the plant grounds. The arrangement of these offices is shown on sketches Nos. 5 and 6 on pages 12 and 13.
- (3) Paint shop No. 1. This was a sheet-metal roofed, brick 40 x 90-meter structure. The automobiles were painted here when the repairs were completed. Paint was applied with spray guns.
- (4) Paint shop No. 2. The characteristics and function of this shop were the same as those of Paint Shop No. 1. The automobiles were stored in these shops until they were shipped from the plant.
- (5) Sheet-metal Storage Shelter. This 50 x 60-meter shelter consisted of a tar-impregnated canvas canopy, supported by wooden posts this protecting the iron and sheet-metal stock from the rain.
- (6) Automobile Parking Lot. This was a large, open 40 x 100-meter area surrounded by a three meter high wooden fence. From 100 to 150 automobiles to be repaired were parked here.
- (7) Living Quarters. This was a three-story building, measuring 20 x 50 meters, which furnished living quarters for some of the plant workers. It had access to the plant area and to the street.

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- (8) **Carpentry Shop.** This was a sheet-metal roofed, brick structure which measured 45 x 150 meters in area. The truck body work was accomplished here. [redacted] were of Soviet-make except for approximately 15 percent which were of German-make. See sketch No. 7 on page 14.
- (9) **Rubber Goods Warehouse.** This small, brick building with a sheet-metal roof measured 20 x 40 meters. Tires and spare rubber parts were stored here.
- (10) **Warehouse.** This was a 20 x 40-meter structure. The following supplies were stored here: electrodes, cylinder blocks, cylinder heads, crankshafts, nails, upholstery material, overalls, light bulbs and a large number of small parts.
- (11) **Garage.** From six to eight trucks and three automobiles were kept here.
- (12) **Breakdown and Assembly Section and Electrical Parts Repair Shop.** This was a spacious, brick, sheet-metal roofed structure which measured 35 x 170 meters and was constructed without intermediate columns. In the breakdown and assembly shop, some 100 workers disassembled the automobiles which were brought in for repair, replaced the necessary parts, and reassembled them. The automobiles were brought in on a ramp and disassembled piece by piece. These pieces were pickled in a bath of caustic soda and water and heated by a steam coil. The pieces were then submerged in clean water. There was no machinery in this shop, other than a few cranes, winches, and metal cutters. This shop had an upper story constructed on each of the two wings each of which measured 10 x 10 meters. One of these was the shop chief's office and the other was the reception office. (See sketch No. 3 of this building on page 19.) The Electrical Parts Repair Shop was concerned with all types of automotive-electric repairs, and employed some forty workers. [redacted]
- (13) **Transformer Section.** This building measured 20 x 30 meters and contained two transformers, only one of which was in operation; the other possibly being reserved for emergencies. Eight to ten workers were employed here, but it was off limits to the other plant workers for reasons of their safety. Electrical power was transformed here and distributed to the various plant shops.
- (14) through (21) The following shops were located in this 40 x 180-meter structure which had a concrete roof covered with tarred canvas.
- (14) **Tool Repair Shop.** This 40 x 180-meter section, in addition to tool repair work, also die-stamped parts for the automobiles. An upper floor had been added to accommodate the machinists. The lower floor contained the machines most of which were of Soviet-make except for one or two of German origin. The machines in this shop were old but in good operating condition. About 40 workers were employed here.
- (15) **Machine Maintenance Shop.** This section was in charge of the maintenance of all plant machinery. Almost all of the forty workers acted as a mobile maintenance crew and repaired the machinery throughout the plant. The location of the machinery in this shop is shown on sketch No. 2 on page 14.¹³

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- (16) **Reconditioning Shop.** This small 8 x 20 meter shop was dedicated to the reconditioning of used automobile parts thus obviating the necessity of manufacturing or replacing new parts. Such work as straightening bent parts, and renewing spent springs was accomplished here.
- ✓ (17) **Washrooms.** The washrooms, showers, and cloakrooms were located here. An upper story had been erected and was used as an upholstery shop.
- ✓ (18) **Sheet Metal Shop.** This shop measured 40 x 40 meters and employed approximately 30 workers. The distribution of the machinery in this shop is shown on sketch No. 10, page 27.²¹
- ✓ (19) **Pickling Shop.** The finished pieces sent from the sheet-metal shop were placed in a caustic soda bath in this shop in order to remove the grease and foreign matter. They were then placed on work tables for re-finishing.
- ✓ (20) **Paint Shop.** In this small shop, the pieces received from the pickling shop above were given their first coat of paint.
- ✓ (21) **Body Shop.** The body parts made in the carpentry shop were received here and mounted, thus completing the repair of the automobile or truck except for painting. (See sketch No. 9 of this shop on page 26.²⁰)
- ✓ (22) **Motor Repair Shop.** The automobile motors were removed from the vehicles in the breakdown and assembly section and sent from there to the motor repair shop. In this 32 x 32 meter shop, some sixty workers completely disassembled the motors, replacing all worn parts. (See sketch No. 8 of this shop, page 19.)
- (23) **Machine Shop.** The machine shop manufactured parts such as nuts, bolts, washers, and axles which were needed in automobile repair work. All major parts such as blocks, cylinder heads and crankshafts were supplied from outside the plant.
- ✓ (24) **Galvanizing and Nickel-Plating Shop.** The arrangement of this shop is shown on sketch No. 1, page 25.¹²
- ✓ (25) **Forge.** The forge was a small shop measuring 15 x 20 meters, with some fifteen workers, where, in addition to the forge, there were several oil-burning and electric furnaces used for tempering and welding. Here, large bolts were made, blocks welded and parts were tempered. (See sketch No. 4 of this shop, page 21.¹¹)
- (26) **Lumber Yard.** The lumber yard was a large unenclosed space where the lumber supplies were stored. Logs were delivered by rail to the unloading platform, where they were cut into planks with a mechanical saw, and then taken to the lumber yard for storage.
- (27) **Unloading platform.** (Mentioned above in (26)).
- (28) **Gasoline Dump.** The gasoline dump was an open area with two gasoline pumps and oil and grease cans for plant use.
- (29) **Heating Plant.** The heating plant was located in a sheet-metal roofed, brick building which measured 20 x 20 meters. Three coal-burning boilers supplied steam for heating the entire plant,

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as well as motive force for the steam-operated machinery. Two of the boilers were constantly in operation, while the third was possibly for emergencies.

- (30), and (39) through (43) were located in a fire-resistant, two-story brick building which measured 30 x 80 meters. Workers living quarters located on the second floor, and the various rooms in the club on the first floor are described below in numerical order.
- (30) One section of first floor of club.
 - (31) Large sports field.
 - (32) Coal and Scrap Dump. This open area was utilized for the storage of coal and scrap iron.
 - (33) Railroad siding entrance.
 - (34) Railroad siding.
 - (35) Public street with entrance to living quarters (7).
 - (36) Public plaza.
 - (37) Nearby houses.
 - (38) Wooden fence which surrounded the plant.
 - (39) Club stage.
 - (40) Club living room.
 - (41) Club hall.
 - (42) Club dining room.
 - (43) Club kitchens.
 - (44) Bathrooms and dressing rooms.
 - (45) Plant street.

Plant Machinery

3. Ninety percent of the plant machinery was of Soviet-make and ten percent was of German make.

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Plant Functions

4. The plant was devoted solely to the repair of civilian automobiles and trucks. Some of the automobiles to be repaired were so seriously damaged as to need almost all of the essential parts replaced, while others had only slight defects. No tractors, caterpillars, tanks, nor any vehicle that could possibly be classified as military were ever repaired here.

There were no secret sections in the plant.

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Raw Materials

5. The raw materials used at the plant were metal, rods, wood, a small quantity of leather and canvas for upholstery, and in general any material that might be used in automobile repairs. Coal and fuel-oil were employed, but not in large quantities. Coal was used for heating and for the forge and the fuel-oil for the tempering furnaces. [redacted]

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Water and Electric Power Supply

6. The plant utilized the city water supply and had no storage or reserve of its own. Electricity was supplied from a Moscow Electric Center transformed at the plant and distributed to the various plant shops. [redacted] the voltage was 220 and [redacted] power failures were very rare. Other than the spare transformer in the electrical center, there were no emergency installations.

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Railroad Transportation

7. There was only one standard Soviet-gauge railroad siding entering the plant (See ~~general sketch on annex~~); this was connected to the Moscow railway system the Serp I Molot plant. Also, there was only a single loading and unloading platform (27), but these facilities appeared sufficient and they had not been enlarged. The plant had no rolling stock of its own, utilizing only the normal freight cars from the surrounding region. [redacted]

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[redacted] some weeks, two or three trains of forty to fifty cars would enter the plant, while, on the other hand, two or three weeks might pass without a train. At these times, there remained, however, sufficient work for the plant because many of the automobiles entered by road transport [redacted]

[redacted] Finished cars were shipped by train or truck depending on the distance involved.

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Highway Transportation

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8. The plant was entered by a short, paved all-weather street, five to seven meters wide, and in good condition, which led from Tankovyy Proyezd. The plant itself had six to eight three-ton trucks which were housed in the plant garage (11). Small electric trucks were used for transporting materials within the plant. [redacted]

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Working Conditions

9. The employees of the plant worked eight-hour shifts. [redacted] earned 1200 rubles a month. Each worker had 12 days of annual leave or 15 days, if he had worked at the plant for more than two years. He was entitled to select his own vacation period, but this was almost never possible since everyone chose summer. Instead, vacations were distributed so as not to interfere with the work of the plant. The vacations were usually spent in a rest camp of the Ministry of Automobile Transport. The medical services was confined to a first aid room attended by a physician one to two hours daily, and by a nurse the rest of the time. At certain times, vaccinations and injections were required as protection against disease. The workers were constantly encouraged to have their X-rays taken at the district clinic.

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Security

10. The security precautions of the plant were mostly limited to precautions against theft. The plant was surrounded by a wooden wall some three meters high with several gates large enough to admit only one person at a time. The plant guards made up a small force of only six to eight persons, generally of slight build, unarmed and without special uniforms. There were two guards at the main gate and three or four others charged with the care of the fire extinguishing equipment that was placed strategically around the plant, and with maintaining a watch to prevent fire. A propusk was required to enter the plant but this was not rigorously enforced. Known workers were able to enter the plant without showing it. Strangers needed permission of the head guard to enter, but this was obtained without great difficulty, and without overly limiting the time that one was allowed to remain on the premises. Workers had free access to all the plant area except for the electrical center for reasons of personal safety. The only limitation on their movement was that they attend properly to their job.

Air Raid Precautions

11. [redacted] no existing precautions against air attack. In the ten years [redacted] only once had the workers been called together in the club room to attend a lecture on the air defense of the plant, but there had never been any defense drills.

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12. Personnel Organization

12. The organization of personnel of the plant is indicated on chart on page 22 . There were from 800 to 1000 workers, almost all of them specialists. Only about 5% were unskilled laborers. Because of the relatively small number of workers in the shops, there was only one shop superintendent. [redacted] the following members of the managerial staff: [redacted]

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- a. Nikolaev (FNU). Plant director. [redacted]
- b. Sungurov (FNU). Production Engineer, [redacted]
- c. Novikov (FNU). Superintendent of supply. [redacted]
- d. Rukin (FNU). Foreman of the motor repair shop. [redacted]

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Legend to  Sketch No. 5 on page 12.
Offices, lower floor

1. Street entrance
2. Entrance hall
3. Supply office
4. First aid station (3 rooms)
5. Receiving offices for automobiles brought in for repair
6. Shipping control office
7. Cashier
8. Telephone center
9. Office of the Chief of Supply
10. Supply office
11. Personnel office
12. Heating plant
13. Accounting office
14. Passageway
15. Entrance to plant
16. Toilets, washroom

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Legend to  Sketch No. 6 on page 13.
Offices, second floor

1. Stairway
2. Hall
3. Secretaries
4. Production office
5. Chief of production
6. Toilets, washrooms
7. Corridor
8. Draftsmen
9. Union secretary
10. Party secretary
11. Chief engineer
12. Director
13. Food supply chief
14. Secretary of the director and food supply chief

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Legend to Sketch No. 7 on page ¹⁸~~16~~.
Carpentry Shop

1. Entrances
2. Carpentry shop
3. Lumber storage
4. Industrial rail truck
5. Mechanical planer
6. Large saw
7. Small saw
8. Drill
9. Enchasing machine
10. Forming shop
11. Bending machines
12. Drying and cooling section
13. Steam generator for softening wood
14. Toilets, washrooms
15. Grinding machines
16. Parts storage

25X1

3
Legend to Sketch No. 3 on page ¹⁴~~13~~.
Breakdown and Assembly Section

1. Parts storage
2. Grinders
3. Automobile lifting rack
4. Water baths
5. Pickling bath
6. Toilets, washroom, and cloakroom
7. Automobile ramp
8. Body cleaning and painting section
9. Testing machines
10. Finishing bench
11. Entrance

25X1

2
Legend to Sketch No. 2 on page ¹³~~14~~.
Machine Maintenance Shop

1. Vertical planer
2. Lathes
3. Drilling machines
4. Milling machines
5. Horizontal planers
6. Finishing benches
7. Press
8. Office

25X1

C-O-N-F-I-D-E-N-T-I-A-L

25X1

- 9 -

C-O-N-F-I-D-E-N-T-I-A-L

25X1

- 10 -

Legend to Sketch No. 10 on page ¹~~19~~.
Sheet Metal Shop

25X1

1. Large cutter
2. Mechanical bender
3. Press
4. Double-headed mechanical hammer
5. Autogenous welding apparatus
6. Hand bending machine
7. Tables
8. Electric welding apparatus
9. Small cutter
10. Outside entrance
11. Entrance to body shop

Legend to Sketch No. 9 on page ~~18~~.
Body Shop, Paint Shop, and Pickling Shop

25X1

1. Storage
2. Drilling machines
3. First-coat paint section
4. Pickling baths
5. Water baths
6. Entrances

Legend to Sketch No. 8 on page 19.
Motor Repair Shop

25X1

1. Disassembly bench
2. Pickling bath
3. Crankshaft grinder
4. Lathe
5. Cylinder grinder
6. Testing machines
7. Finishers bench
8. Entrances
9. Pure water bath

Legend to Sketch No. 1 on page ¹²~~20~~.
Galvanizing and Nickel Plating Shop

25X1

1. Galvanizing baths
2. Clean water baths
3. Direct current converter
4. Air compressors for paint shop
5. Ventilators
6. Cleaning room for galvanized pieces
7. Laboratory
8. Precision control instruments
9. Entrance

Legend to Sketch No. 4 -pg. ¹⁵~~21~~.
Forge

25X1

1. Entrance
2. Storage
3. Oil furnace
4. Oil tempering bath
5. Large mechanical hammer
6. Electric furnaces
7. Small mechanical hammer
8. Coal furnaces
9. Cutter
10. Press
11. Drilling machines
12. Welding apparatus
13. Office

C-O-N-F-I-D-E-N-T-I-A-L

25X1

- 10 -

C-O-N-F-I-D-E-N-T-I-A-I

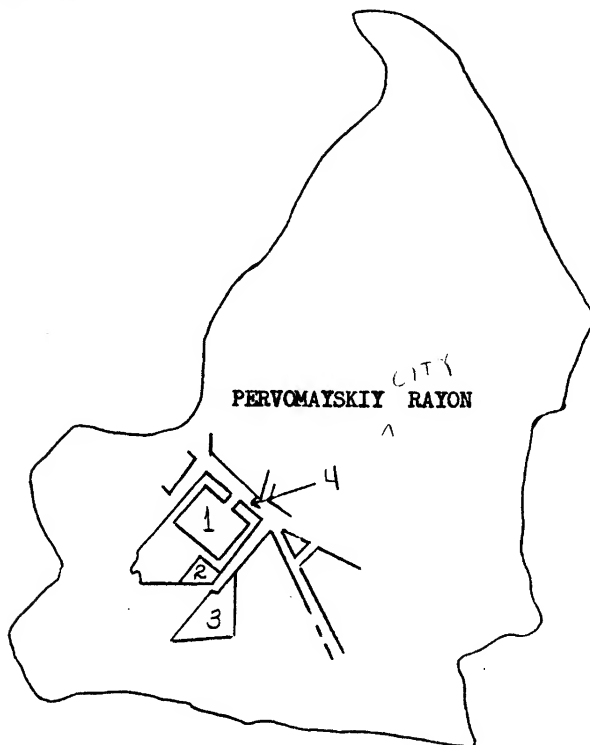
25X1

- 11 -

Overlay of Plan of Moscow

25X1

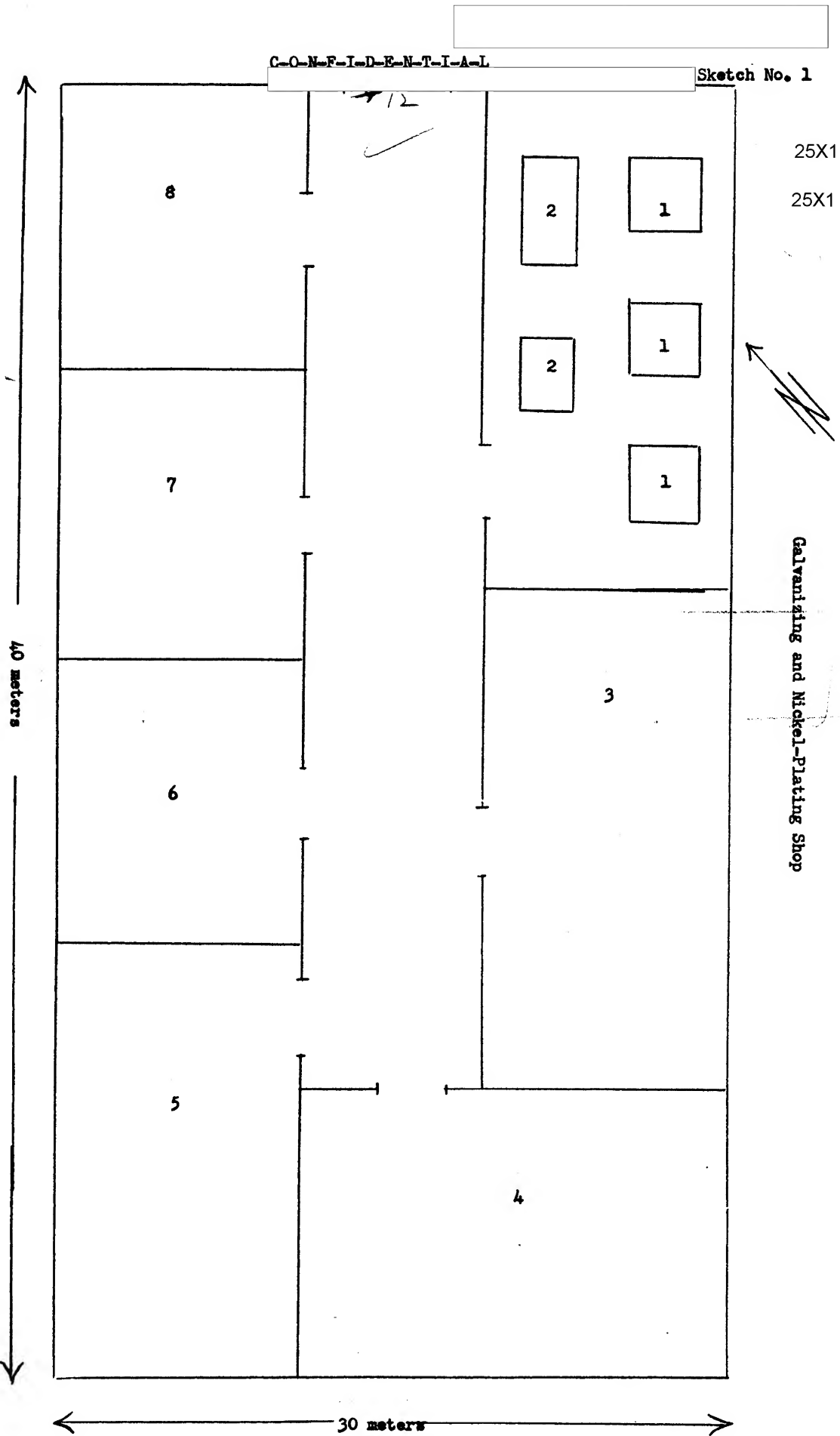
1. Central Automobile Repair Plant
2. Large Bakery
3. Serp I Molot metallurgical plant
4. Tankovyy Proyezd



C-O-N-F-I-D-E-N-T-I-A-L

25X1

- 11 -



~~C-O-N-F-I-D-E-N-T-I-A-L~~

25X1

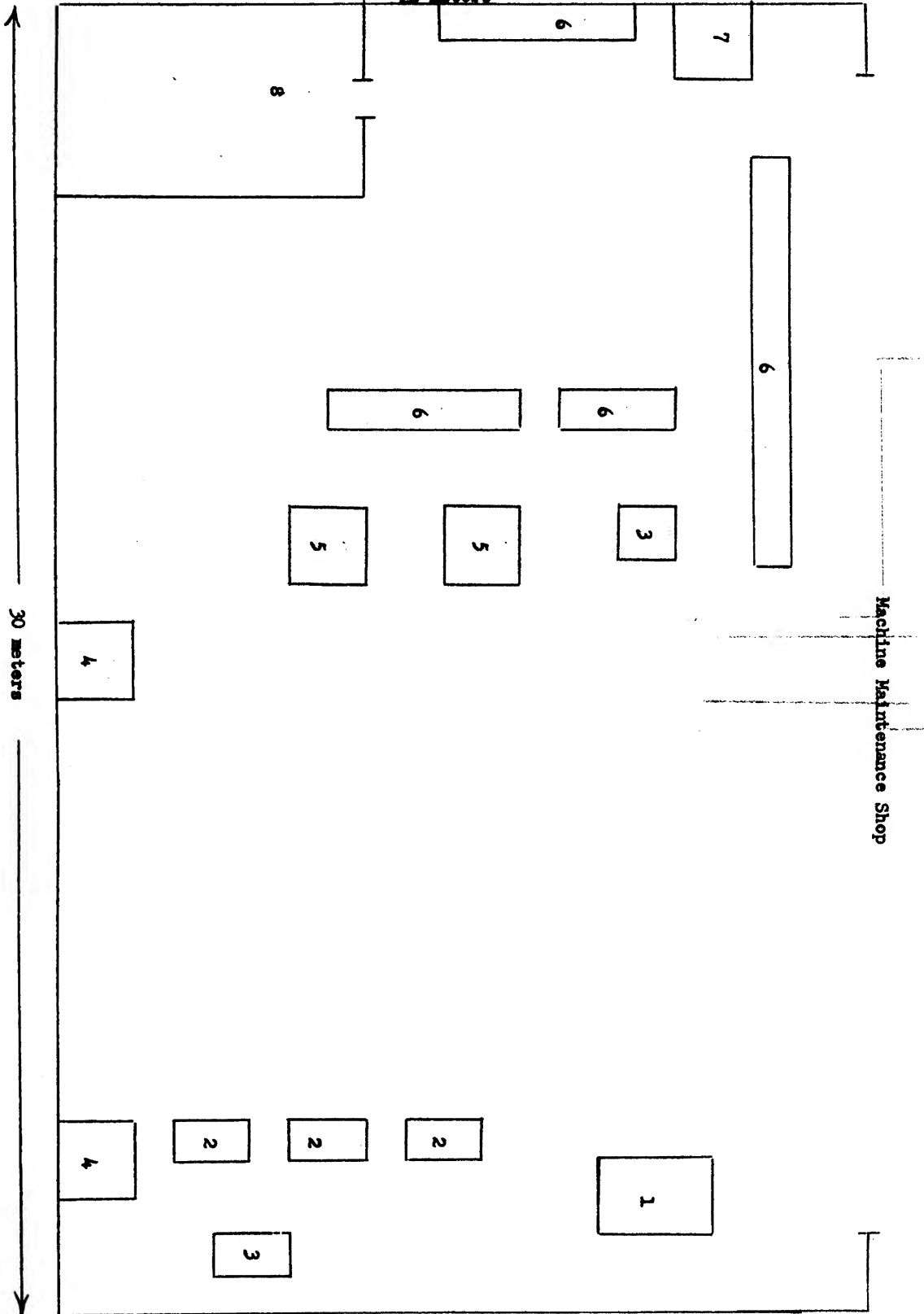
25X1

~~C-O-N-F-I-D-E-N-T-I-A-L~~

25X1

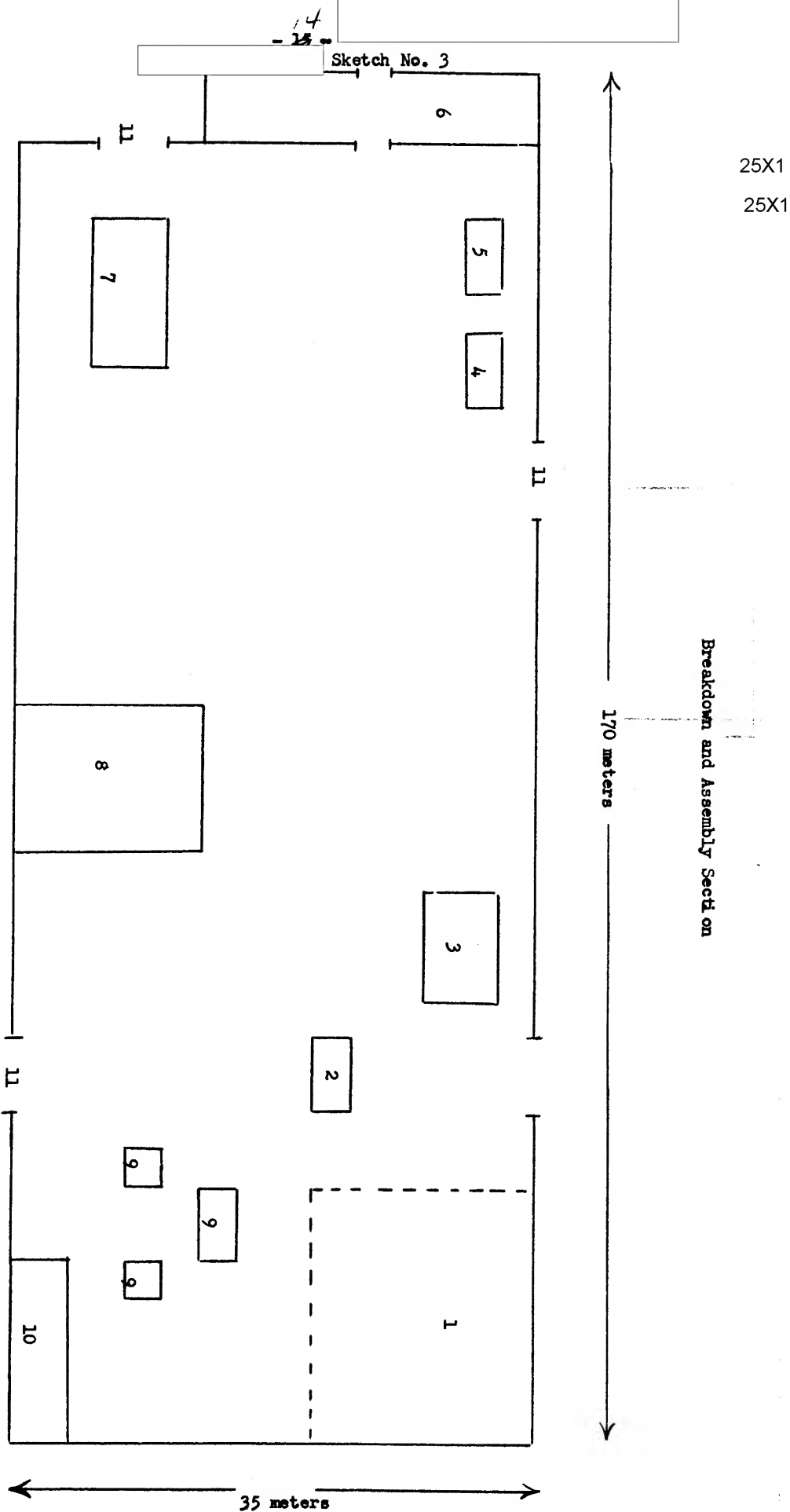
Sketch No. 2

28 meters



~~C-O-N-F-I-D-E-N-T-I-A-L~~

25X1



C-O-N-F-I-D-E-N-T-I-A-L

~~C-O-N-F-I-D-E-N-T-I-A-L~~

- 21 -

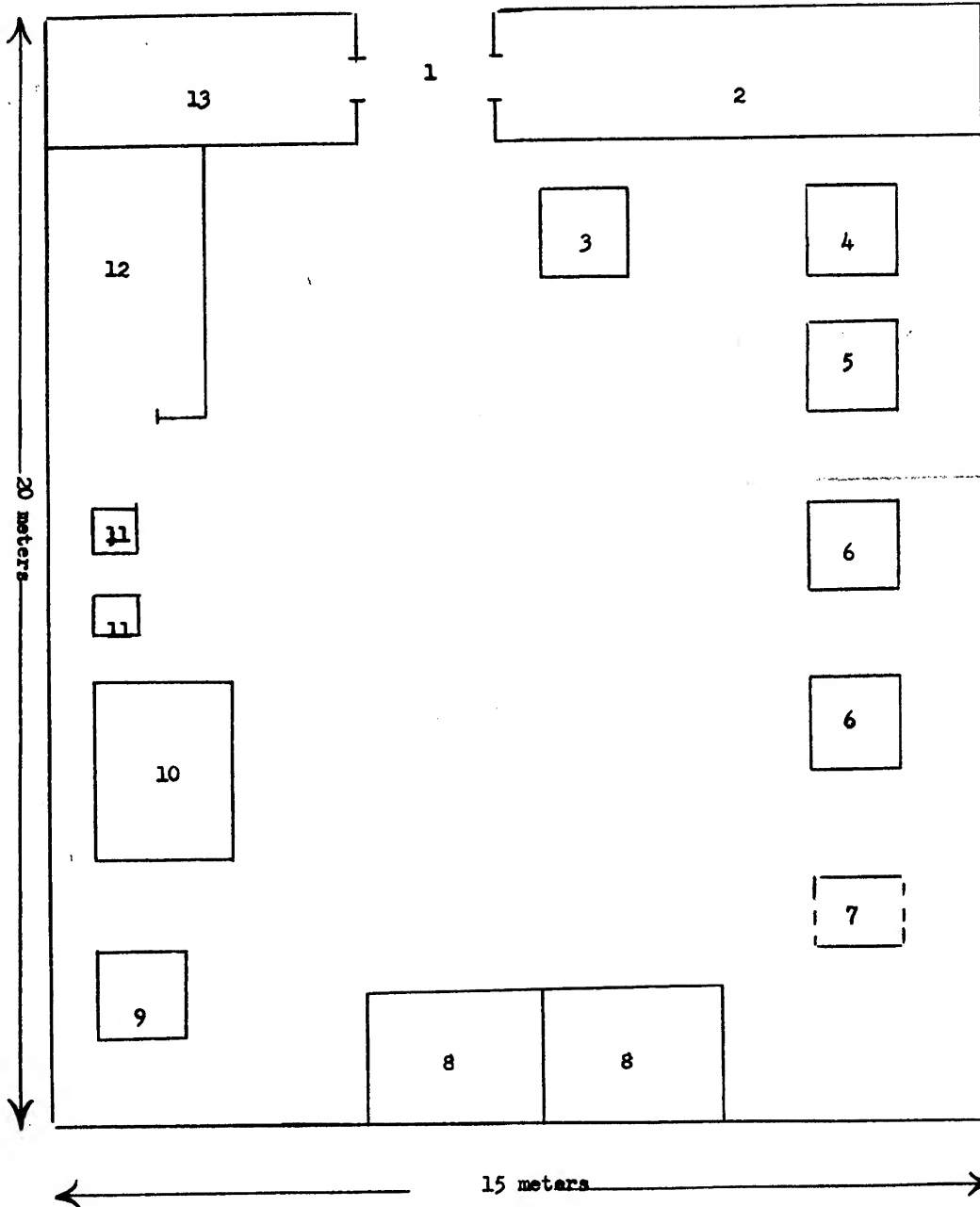
Sketch No. 4

Forge

25X1

25X1

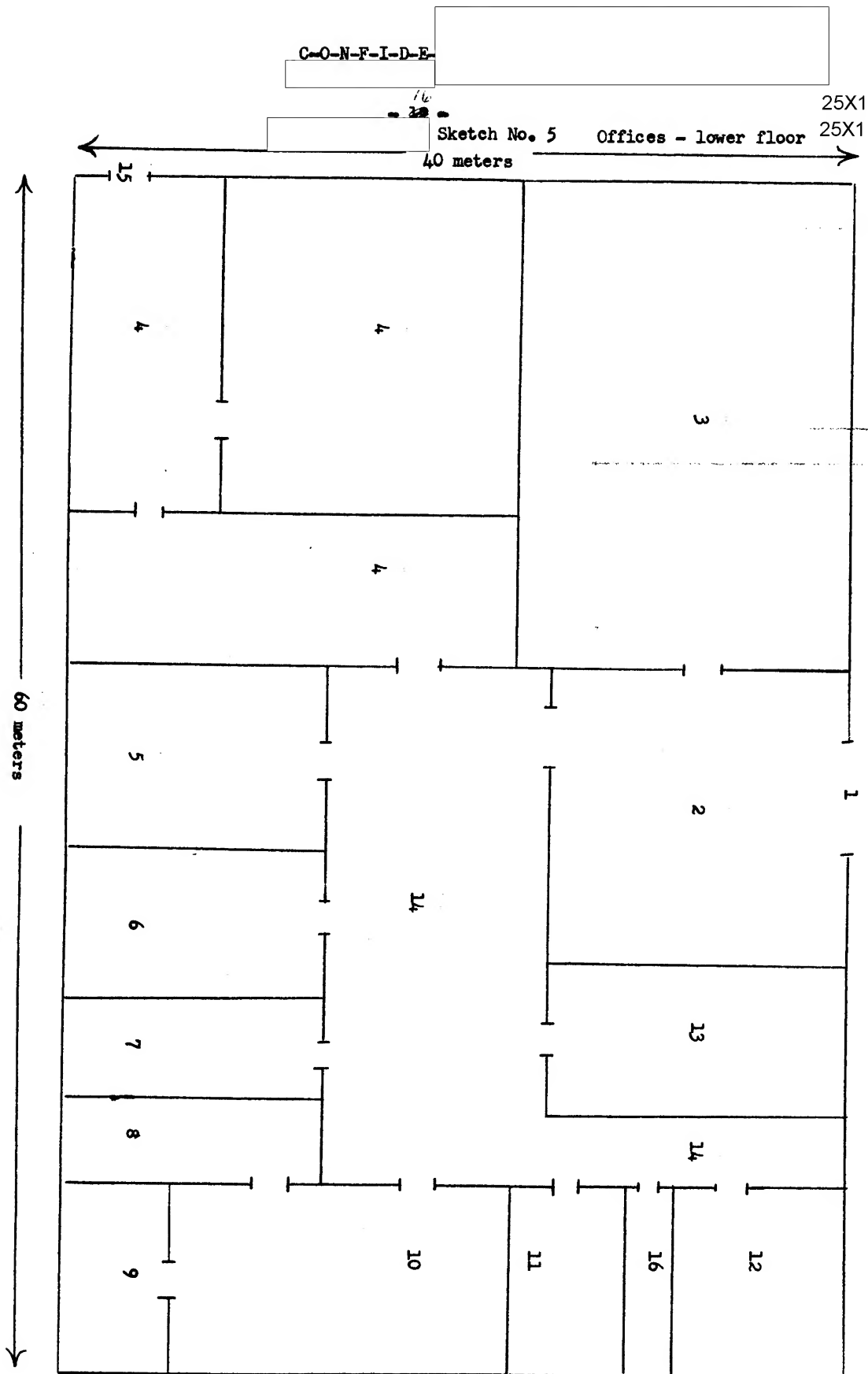
25X1



~~C-O-N-F-I-D-E-N-T-I-A-L~~

25X1

- 21 -



C-O-N-F-I-D-E-N-T-I-A-L

25X1

C-O-N-F-I-D-E-N-T-I-A-L

Sketch No. 6

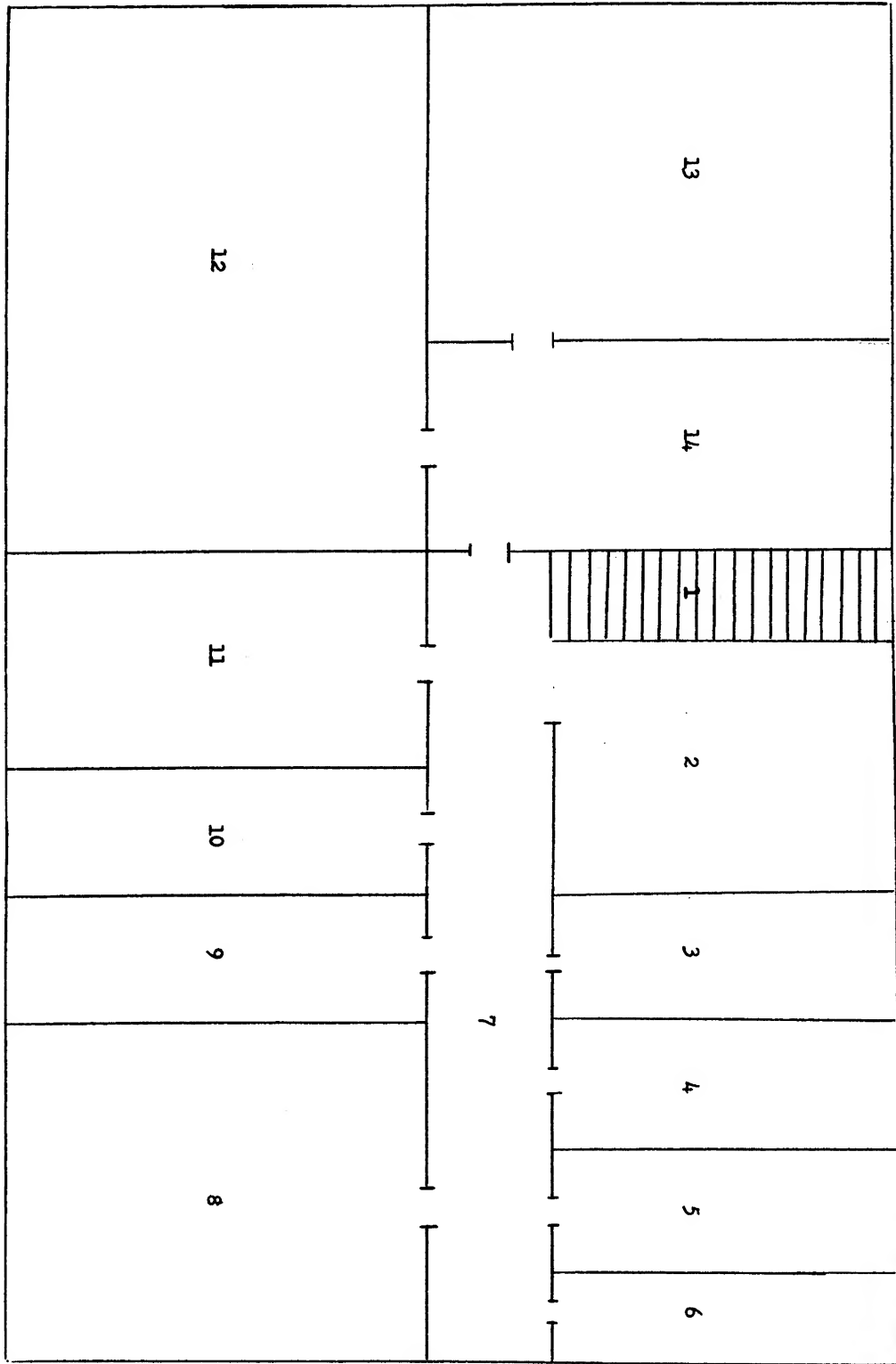
Offices - second floor

25X1

25X1

40 meters

60 meters



C-O-N-F-I-D-E-N-T-I-A-L

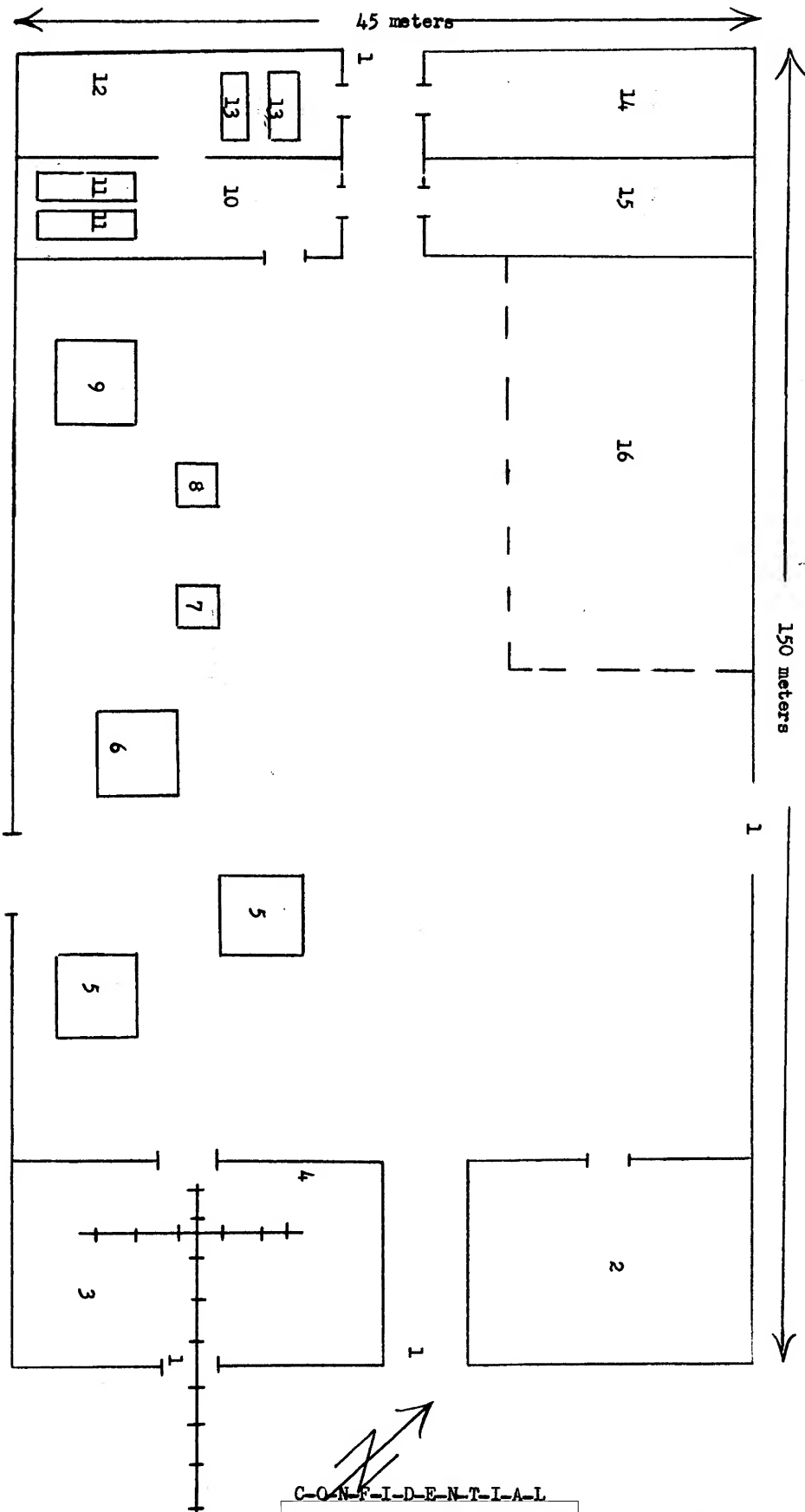
25X1

C-O-N-F-I-D-E-N-T-I-A-L

Sketch No. 7 Carpentry Shop

25X1

25X1



150 meters

C-O-N-F-I-D-E-N-T-I-A-L

25X1

C-O-N-F-I-D-E-N-T-I-A-L

- 19 -

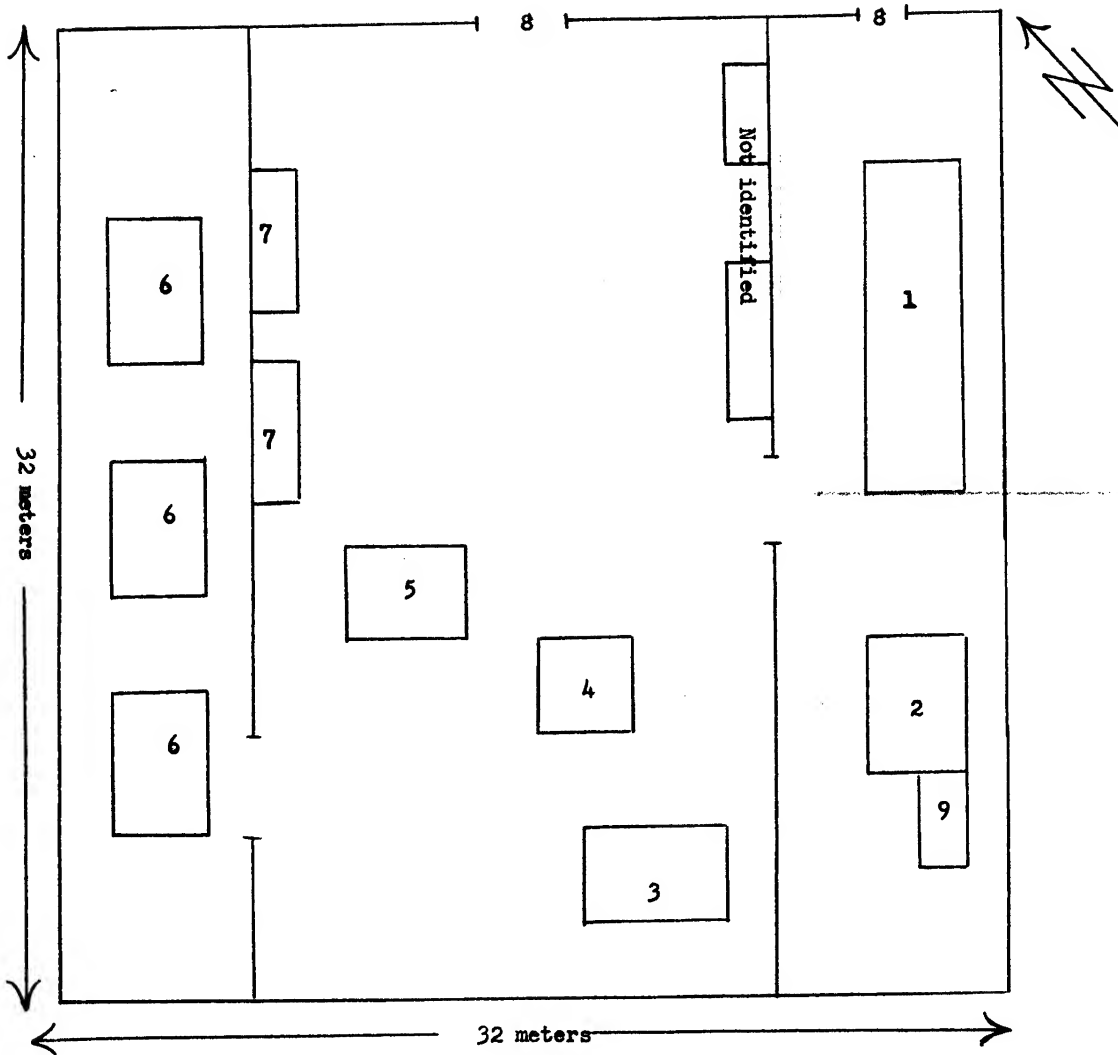
Sketch No. 8

Motor Repair Shop

25X1

25X1

25X1



C-O-N-F-I-D-E-N-T-I-A-L

- 19 -

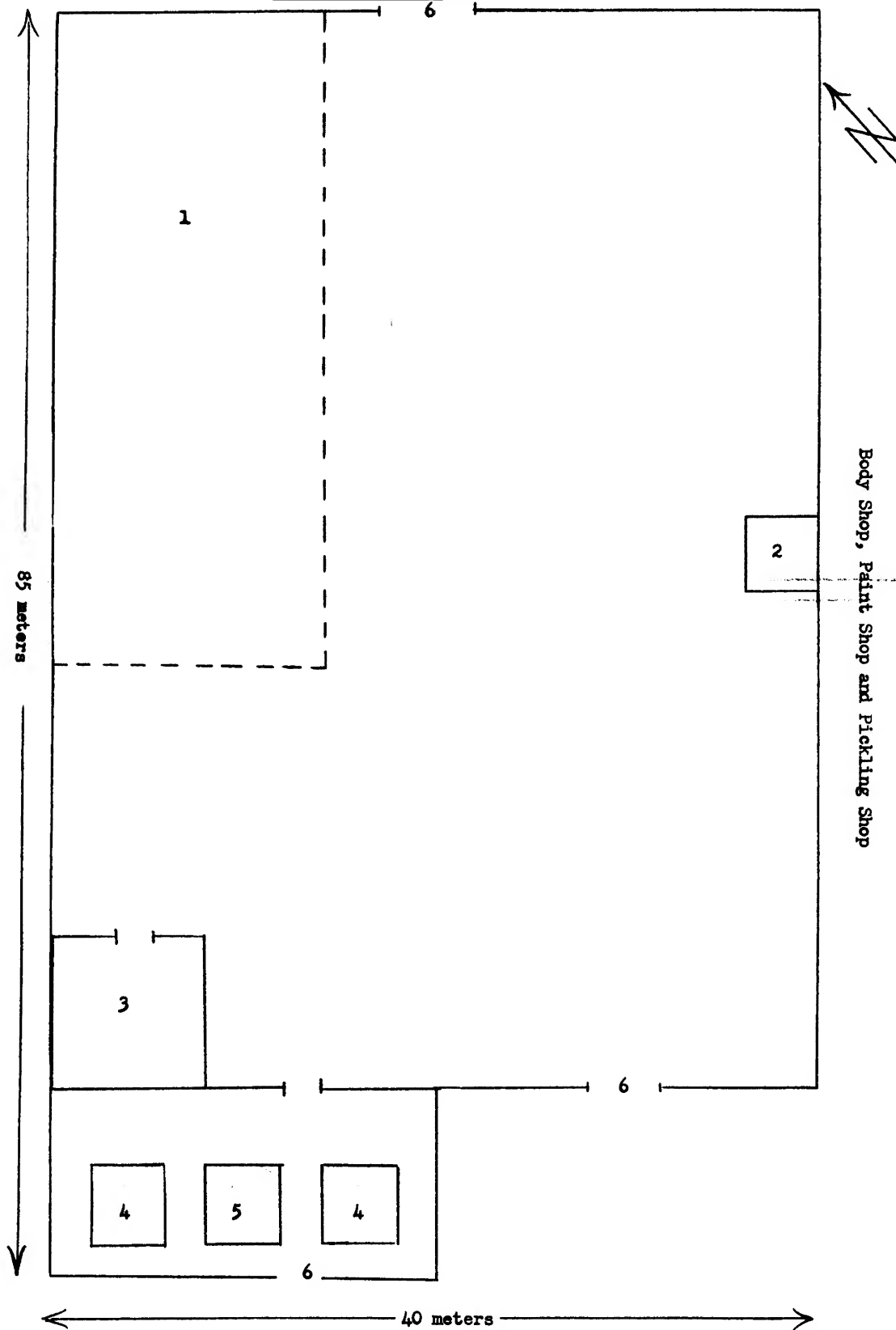
25X1

C-O-N-F-I-D-E-N-T-I-A-L

Sketch No. 9

25X1

25X1



C-O-N-F-I-D-E-N-T-I-A-L

25X1

C-O-N-F-I-D-E-N-T-I-A-L

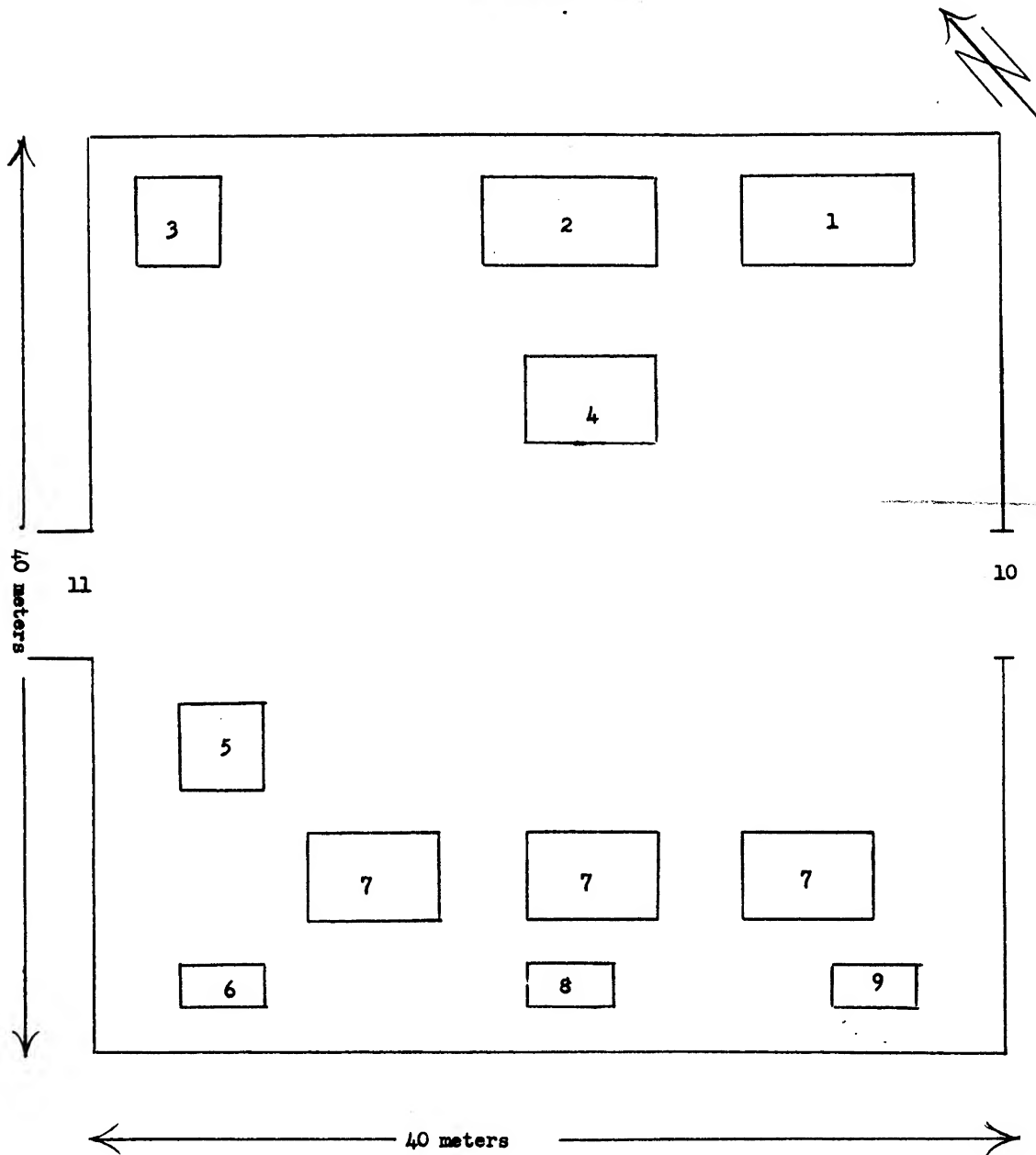
25X1

- 2 -

Sketch No. 10

25X1

Sheet Metal Shop

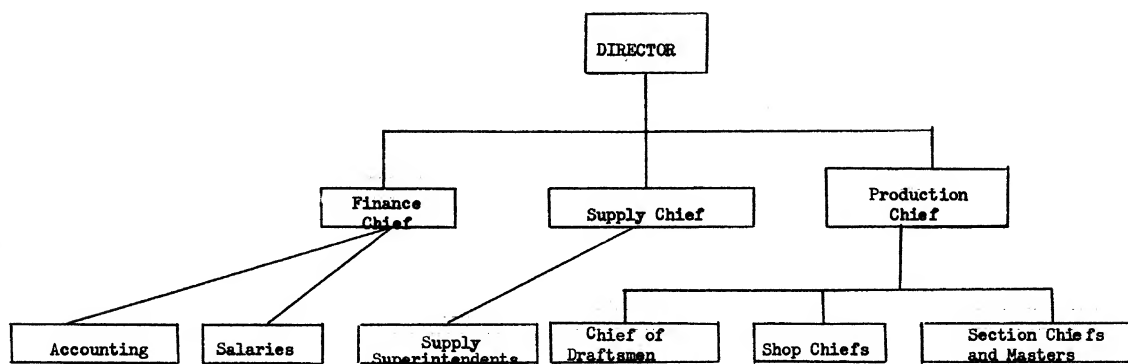


C-O-N-F-I-D-E-N-T-I-A-L

25X1

- 17 -

CENTRAL AUTOMOBILE REPAIR PLANT IN MOSCOW
CHART SHOWING PERSONNEL ORGANIZATION



C-O-N-F-I-D-E-N-T-I-A-L

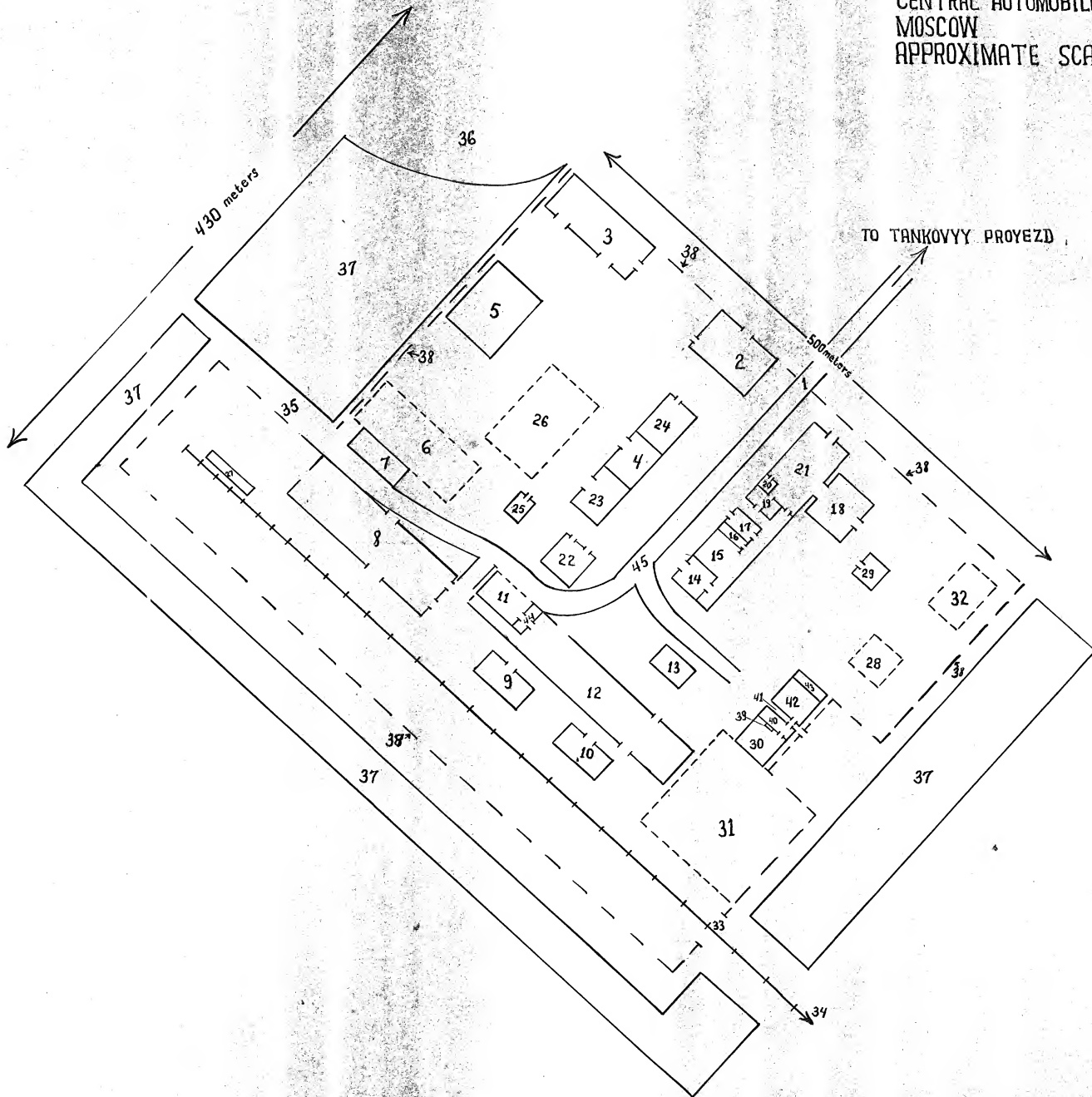
C-O-N-F-I-D-E-N-T-I-A-L

25X1

25X1

CONFIDENTIAL

SKETCH OF
CENTRAL AUTOMOBILE PLANT IN
MOSCOW
APPROXIMATE SCALE 1:2000



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